# Cement Bond Log

PIONEER
Pioneer Energy Services

| | |
|---|---|
| Company | ENCANA OIL & GAS INC. |
| Well | Newnam 2E-32H-C264 |
| Field | Wattenberg |
| County | Weld |
| State | CO |

**Company** ENCANA OIL & GAS INC.
**Well** Newnam 2E-32H-C264
**Field** Wattenberg
**County** Weld **State** CO

**Location:** API # : 05-123-39776-00
SHL: 307' FNL 1590' FWL NE/NW
SEC 32 TWP 2N RGE 64W

Other Services: CCL / GR

| | | | |
|---|---|---|---|
| Permanent Datum | GL | Elevation | 4953 |
| Log Measured From | KB | | |
| Drilling Measured From | KB | | |

Elevation
K.B. 4966
D.F. 4966
G.L. 4953

| | |
|---|---|
| Date | December 6, 2014 |
| Run Number | 1 |
| Depth Driller | 11410 |
| Depth Logger | 7216 |
| Bottom Logged Interval | 7216 |
| Top Log Interval | Surface |
| Open Hole Size | 8-3/4 |
| Type Fluid | WBM |
| Density / Viscosity | 10.5 / 41 |
| Max. Recorded Temp. | NA |
| Estimated Cement Top | 480 |
| Time Well Ready | 1030 |
| Time Logger on Bottom | 1130 |
| Equipment Number | 36 |
| Location | Fort Morgan |
| Recorded By | Shaun Stump |
| Witnessed By | Rich Borner |

| Borehole Record | | | | Tubing Record | | | |
|---|---|---|---|---|---|---|---|
| Run Number | Bit | From | To | Size | Weight | From | To |
| | | | | | | | |
| | | | | | | | |

| Casing Record | Size | Wgt/Ft | Top | Bottom |
|---|---|---|---|---|
| Surface String | 9-5/8 | 40 | 0 | |
| Prot. String | | | | |
| Production String | 7 | 26 | 0 | 7441 |
| Liner | | | | |

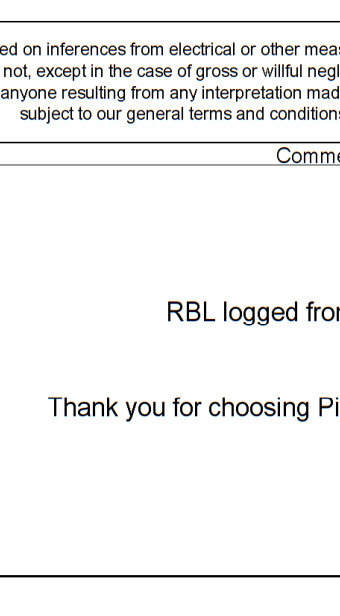
<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

## Comments

RBL logged from ' to surface

Thank you for choosing Pioneer Energy Services!



| Sensor | Offset (ft) | Description | Len (ft) | OD (in) | Wt (lb) |
|---|---|---|---|---|---|
| | | CENT #2 -A (1) | 2.83 | 2.75 | 20.00 |
| IntTemp | 14.66 | | | | |
| TEMP | 13.64 | | | | |
| | | RBT-RBT-C3 (11206)<br>Probe Radii Bond Tool with Digital Telemetry | 9.33 | 2.75 | 90.00 |
| WVF3FT | 11.41 | | | | |
| WVFCAL | 11.41 | | | | |
| WVFS1 | 11.41 | | | | |
| WVFS2 | 11.41 | | | | |
| WVFS3 | 11.41 | | | | |
| WVFS4 | 11.41 | | | | |
| WVFS5 | 11.41 | | | | |
| WVFS6 | 11.41 | | | | |
| WVFS7 | 11.41 | | | | |
| WVFS8 | 11.41 | | | | |
| WVF5FT | 10.41 | | | | |
| | | CENT-A (1) | 2.83 | 2.75 | 20.00 |
| CCL | 3.92 | | | | |
| | | GR-probe 2.75 (111205)<br>proble Digital CCL Gamma | 4.33 | 2.75 | 100.00 |
| GR | 1.13 | | | | |

Dataset: 13740.db: field/well/run1/Final
Total Length: 19.32 ft
Total Weight: 230.00 lb
O.D. 2.75 in

Database File: 13740.db
Dataset Pathname: Final
Presentation Format: scbl02
Dataset Creation: Sat Dec 06 12:48:17 2014 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

## Calibration Report

Database File: 13740.db
Dataset Pathname: Final
Dataset Creation: Sat Dec 06 12:48:17 2014 by Calc Open-Cased 110302

## Gamma Ray Calibration Report

| | | |
|---|---|---|
| Serial Number: | 111205 | |
| Tool Model: | probe 2.75 | |
| Performed: | Fri Dec 05 20:07:48 2014 | |
| Calibrator Value: | 1.0 | GAPI |
| Background Reading: | 0.0 | cps |
| Calibrator Reading: | 1.0 | cps |
| Sensitivity: | 0.8000 | GAPI/cps |

## Segmented Cement Bond Log Calibration Report

| | | |
|---|---|---|
| Serial Number: | 11206 | |
| Tool Model: | RBT-C3 | |
| Calibration Casing Diameter: | 7.000 | in |
| Calibration Depth: | 435.128 | ft |

Master Calibration, performed Sat Dec 06 12:47:53 2014:

| | Raw (v) | | Calibrated (mv) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | 0.012 | 0.904 | 1.000 | 62.165 | 68.596 | 0.175 |
| CAL | 0.013 | 0.995 | | | | |
| 5' | 0.012 | 0.856 | 1.000 | 62.165 | 72.511 | 0.101 |
| SUM | | | | | | |
| S1 | -0.059 | 0.994 | 0.000 | 100.000 | 94.980 | 5.605 |
| S2 | 0.011 | 1.123 | 0.000 | 100.000 | 89.917 | -0.971 |
| S3 | 0.013 | 1.090 | 0.000 | 100.000 | 92.836 | -1.207 |
| S4 | 0.013 | 1.040 | 0.000 | 100.000 | 97.329 | -1.245 |
| S5 | 0.013 | 1.005 | 0.000 | 100.000 | 100.901 | -1.356 |
| S6 | 0.013 | 1.003 | 0.000 | 100.000 | 101.009 | -1.274 |
| S7 | 0.014 | 0.907 | 0.000 | 100.000 | 111.883 | -1.512 |
| S8 | 0.013 | 0.957 | 0.000 | 100.000 | 105.908 | -1.342 |

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

| | Raw (v) | | Calibrated (v) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| CAL | 0.000 | 0.000 | 0.013 | 0.995 | 1.000 | 0.000 |

Air Zero Calibration, performed Tue Nov 25 22:37:44 2014:

| | Raw (v) | Calibrated (v) | Results |
|---|---|---|---|
| | Zero | Zero | Offset |
| 3' | -0.001 | 0.000 | 0.013 |
| 5' | -0.000 | 0.000 | 0.012 |
| SUM | | | |
| S1 | 0.069 | 0.000 | -0.059 |
| S2 | -0.001 | 0.000 | 0.013 |
| S3 | -0.001 | 0.000 | 0.013 |
| S4 | -0.000 | 0.000 | 0.013 |
| S5 | -0.001 | 0.000 | 0.013 |
| S6 | -0.000 | 0.000 | 0.013 |
| S7 | -0.001 | 0.000 | 0.013 |
| S8 | -0.000 | 0.000 | 0.013 |

## Temperature Calibration Report

| | |
|---|---|
| Serial Number: | 11206 |
| Tool Model: | RBT-C3 |
| Performed: | Wed Jun 11 03:38:10 2014 |

| | Reference | | Reading | |
|---|---|---|---|---|
| Low Reference: | 0.00 | degF | 0.00 | degF |
| High Reference: | 1.00 | degF | 1.00 | degF |
| Gain: | 0.30 | | | |
| Offset: | 12.00 | | | |
| Delta Spacing | 1 | | | |

# Log Variables

Database:C:\Warrior\Data\13740.db
Dataset: field/well/run1/Final

**Top - Bottom**

| PPT usec | CASEWGHT lb/ft | MAXAMPL mV | MINAMPL mV | MINATTN db/ft | CASEOD in | PERFS | TDEPTH ft |
|---|---|---|---|---|---|---|---|
| 0 | 26 | 0 | 1 | 0.08 | 7 | 0 | 0 |

| BOTTEMP degF | BOREID in |
|---|---|
| 206 | 8.75 |